REMARKS

Amendments to the Specification

The specification has been amended to remove the embedded hyperlinks objected to by the Examiner. No new matter has been added.

Amendments to the Claims

Claims 1-48 were pending. Claims 1-26, 36, 37, 40, 41, 47, and 48 have been canceled without prejudice as being drawn to a non-elected invention. Claims 27, 31, 33, 38, 42, and 43 have been amended. New claims 49-51 have been added. Accordingly, claims 27-35, 38, 39, 42-46, and 49-51 are currently pending.

Claims 27 and 33 have been amended to specify that the molecular conjugate comprises an antibody that binds to the human macrophage mannose receptor. Support for this amendment can be found throughout the specification and the claims as originally filed, *e.g.*, at page 2, lines 20-27.

Dependent claim 31 has been rewritten in independent form.

Claim 38 has been amended to multiply depend from claims 27, 31 or 32.

Claims 42 and 43 have been amended to provide appropriate antecedent basis.

New claims 49 and 50 correspond to claims 31 and 32, respectively, in dependent form.

New claims 51 is drawn to the molecular conjugate of claim 27, wherein the receptor comprises the amino acid sequence shown in SEQ ID NO:7. Support for new claim 51 can be found throughout the specification and the claims as originally filed, *e.g.*, at page 2, lines 20-27.

No new matter has been added by way of these amendments. Amendment to the claims should in no way be viewed as acquiescence to any rejection. Applicants reserve the right to pursue the claims as originally filed in this or subsequent applications.

Rejection of Claims 31 and 34 Under 35 U.S.C. §112, First Paragraph

Claims 31 and 34 are rejected as not being enabled. Specifically, the Examiner states that:

> [g]iven the established unpredictability of the art, the instant specification would require a significant teaching to be enabled. In particular, it is unlikely that the generic modified conjugates encompassed by the claims could function for their

> intended use. Note that the modified conjugates of the claims would encompass conjugates modified in their CDR binding regions of the antibody portions of the conjugates. It is well-established that even single substitutions in the CDR regions of an antibody can have a dramatic, and unpredictable, effect on antibody binding (and, thus, function). See, for example, Kobayashi *et al.* (1999) wherein it is taught that even single conserved substitutions can have a large effect on antibody binding . . .

The Examiner further states that the "instant specification provides no examples of the modified conjugates . . . ." The Examiner concludes that "the specification fails to adequately disclose how to make and use the claimed invention. Accordingly, the invention is considered to be highly unpredictable and requiring of undue experimentation to practice as claimed."

Applicants respectfully traverse this rejection. The molecular conjugates defined by claims 31 and 34 are fully supported and enabled in light of the teachings in the present specification and the level of skill of those in the art. In particular, this phrase would be readily understood by a skilled practitioner as referring to modifications that do not substantially affect or alter the binding characteristics of the antibody containing the claimed amino acid sequence. Conservative substitutions are well known in the art and are understood to include amino acids in which the amino acid residue is replaced with an amino acid residue having a similar side chain. Such families of amino acid residues having similar side chains are well known in the art as evidenced by, for example, Stryer, *Biochemistry*, 2nd ed., Chapter 2, pages 13-15 (attached as Appendix A). Moreover, antibodies having such substitutions can be tested using routine immunoassays, *e.g.*, ELISA using recombinant human mannose receptor or flow cytometry using dendritic cells or macrophages (see Examples 2-4 of the present application), for the antibody's ability to bind human mannose receptor without requiring undue experimentation by one of ordinary skill in the art.

Based at least on the foregoing, claims 31 and 34 are enabled. Accordingly, Applicants respectfully request the Examiner to withdraw the rejection.

Rejection of Claims 27-30 and 38-40 Under 35 U.S.C. §102(b)

Claims 27-30 and 38-40 are rejected as lacking novelty in view of U.S. Patent No. 5,922,845 (the '845 patent), as evidenced by Geissmann *et al.* (2001). Specifically, the Examiner states that "[t]he '845 patent teaches a molecular conjugate comprising an antibody that binds to dendritic cells (FcαR) and an antigen, wherein said antigen comprises a component of a pathogen or a tumor (cancer) antigen . . ." The Examiner further notes that Geissmann *et al.* "merely demonstrates that an antibody that binds Fcα (CD89) would bind dendritic cells."

Applicants respectfully traverse this rejection. However, to expedite prosecution, independent claim 27 has been amended to specify that the molecular conjugate comprises a human monoclonal antibody that binds to the human macrophage mannose receptor. The molecular conjugates described in the '845 patent bind to the Fcα receptor, not the human macrophage mannose receptor. Accordingly this rejection is now moot.

Rejection of Claims 32 and 33 Under 35 U.S.C. §103(a)

Claims 32 and 33 are rejected as being unpatentable over U.S. Patent No. 5,922,845 (the '845 patent) in view of Tuting *et al.* (1998). Specifically, the Examiner relies on the teachings of the '845 patent as described immediately above. The Examiner further states that the '845 patent "differs from the claimed invention only in that it does not teach the Pmel-17 tumor antigen." According to the Examiner, "Tuting *et al.* teach that Pmel-17 is one of several well known melanoma antigens." The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention "to produce a molecular conjugate comprising an antibody that binds to dendritic cells and tumor antigen, as taught by the '845 patent, employing Pmel-17 as the antigen . . ."

Applicants respectfully traverse this rejection. However, to expedite prosecution, independent claim 27 (from which claim 32 depends) and independent claim 33 have been amended to specify that the molecular conjugate comprises a human monoclonal antibody that binds to the human macrophage mannose receptor. As described above, the molecular conjugates described in the '845 patent do not bind to the human macrophage mannose receptor. Nor do Tuting *et al.* teach a molecular conjugate that binds to the human macrophage mannose receptor. In fact, the secondary reference fails to teach or suggest anything pertaining to molecular conjugates or the targeting of antigens to antigen presenting cells. Accordingly, the

cited references, either alone or in combination fail to teach or suggest the claimed molecular conjugates. Therefore, claims 32 and 33 are patentable.

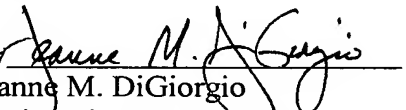
SUMMARY

In view of the foregoing amendments and arguments, reconsideration and withdrawal of all the rejections, and allowance of this application with all pending claims are respectfully requested. If a telephone conversation with Applicants' Attorney would expedite the prosecution of the above-identified application, the Examiner is urged to call (617) 227-7400.

Applicants believe no additional fee is due with this response. However, if an additional fee is due, please charge our Deposit Account No. 12-0080, under Order No. MXI-166CP from which the undersigned is authorized to draw.

Dated: May 10, 2005

Respectfully submitted,

By 

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